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Central Intelligence Agency



Washington, D.C. 20505

20 September 1985

France Tries to Close the Technology Gap II

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Summary

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This summer, France has continued to move forward on several technology fronts. French officials have campaigned long and hard for President Mitterrand's pet project, EUREKA, and on 17 July ten EC countries along with Spain, Portugal, Austria, Norway, Sweden, Finland, and Switzerland formally pledged to join EUREKA. Although they were unable to agree on the program's funding or structure, they did set up a series of experts meetings for this fall, which will culminate with a ministerial-level meeting on 5 and 6 November in Hanover, West Germany. The program has been generally well received in Western Europe, although West Germany and the UK remain deeply suspicious about France's obvious attempts to dominate it. In our judgment, the future of EUREKA still depends very much on the ability of governments to move quickly to generate successful collaborative projects soon.

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France continues to reject participation in SDI research at the national level, but Mitterrand and others have made it clear that French firms can go

In response to a request from Dr. George A. Keyworth, Science Adviser to the President, this memorandum was prepared by [redacted] West European Division, Office of European Analysis. It was coordinated with the Office of Scientific and Weapons Research. Research was completed on 19 September 1985. Comments and questions are welcome and should be addressed to [redacted] Chief, West European Division, EURA, [redacted]

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ahead with company-to-company deals under certain conditions. At least two state-owned French electronics firms are aggressively pursuing contracts to join in SDI-related research with US companies. [redacted]

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In space research, France was hit hard by the recent failure of an Ariane rocket. The Arianespace company has built a reputation for dependability that has garnered it nearly half of the world market for launching commercial satellites. This failure is likely to undermine some of that confidence. [redacted]

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Research is one of the few expenditure items scheduled to grow in real terms (3-3.5 percent) in the 1986 budget adopted on 11 September. [redacted]

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France continues to work hard at preventing technology leaks to the Soviet Union. [redacted]

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EUREKA

Western Europe, led by France, has moved ahead in the planning stages of EUREKA, but thus far there is nothing concrete to show for the effort. On 17 July the foreign and research ministers from the ten EC countries along with Spain, Portugal, Austria, Norway, Sweden, Finland, Switzerland, and representatives from the EC Commission formally pledged to join in EUREKA. During the meeting, President Mitterrand pledged just over \$110 million to EUREKA, but so far France is the only country to have made a financial commitment. The ministers, unable to agree on the program's funding or structure, promised to meet again by mid-November to iron out the details and appointed a group of experts to prepare background studies in the interim.

--The experts met on 18 and 19 September and will reconvene on 16 and 17 October to discuss possible areas of research and specific projects.

--Financial experts will meet separately in mid-October to discuss funding.

--The ministerial-level meeting is set for 5 and 6 November in Hanover, West Germany. [REDACTED]

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The French government has devoted considerable time, talent, and effort to developing EUREKA. Hubert Curien, the Science and Research Minister, oversees EUREKA policy, although Edith Cresson, the Trade Minister, is also heavily involved in EUREKA planning, as are top officials in the Foreign Ministry. Paris has also named Yves Sillard, a highly respected aeronautical engineer who has been closely involved in the French space program, to coordinate French government and industry participation in EUREKA. [REDACTED]

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France has lobbied heavily in favor of EUREKA, both in Europe and elsewhere. While in China this month, Foreign Minister Dumas received Beijing's glowing endorsement of the program. [REDACTED]

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[REDACTED] The program has generally been well-received in Western Europe, although most countries still approach it cautiously since it is clearly in its formative stages. France has concentrated most of its lobbying attention on West Germany and the UK, and EUREKA was one of the primary topics at a summit meeting in August between President Mitterrand and Chancellor Kohl. [REDACTED]

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In our judgment, the future of EUREKA still depends on the ability of governments to generate successful collaborative projects soon. The November meeting may make or break the program. EUREKA may gain momentum and prove viable if the ministers can agree on several pilot projects, a level of funding adequate to attract industrial participation, and effective administration. If European governments, on the other hand, continue to quibble and delay, the program probably will lose its attraction for industry and quietly disappear. [REDACTED]

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French Participation in SDI

Although France has officially rejected SDI at the national level, French firms are moving aggressively to participate in SDI research. [REDACTED] President Mitterrand and other government officials told businessmen on various occasions during the

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summer that Paris would allow French companies to join in SDI research, but only on four conditions: their dealings must be on a company-to-company basis; the French government must not be involved; they must avoid coordinating their participation through US government channels; and their activities must not siphon off needed resources from EUREKA.

[redacted]

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[redacted] French state-owned electronics firms are on the verge of signing contracts to join in SDI-related research with US companies. Matra is pursuing a joint venture to develop ultra-violet tracking systems, while Thomson hopes to work with a US firm studying the short-range missile threat. Officials from the French companies are optimistic that the contracts will be signed in October.

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Space

Mitterrand personally witnessed an embarrassing setback to the French space program on 13 September when technicians were forced to destroy an Ariane rocket that veered out of control 10 minutes after take-off. The incident occurred at the launch facility built in Kourou, French Guiana, by Arianespace, a French-led company established by the 11-member European Space Agency and CNES, the French equivalent of NASA. Mitterrand attended the launch largely to demonstrate France's commitment to the commercial space program. His trip, which also included a visit to the French nuclear testing site in the South Pacific, was additionally intended to underscore France's high tech military capabilities and resolve to maintain its overseas presence.

[redacted]

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The Ariane failure was a severe blow to French pride. According to press reports, the aborted rocket carried two communications satellites worth \$190 million, but international loss of confidence in the system could prove even costlier. Since launching its first rockets in 1979, Arianespace has had only three failures in 15 launch attempts, and dependability at a reasonable cost has been its main selling point. The Arianespace program has become the US space shuttle's major competitor, servicing nearly half of the world market. Press reports indicate, however, that because of the accident, launch insurance will be more difficult to obtain, which is likely to deter some prospective clients.

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Appendix

EUREKA Areas of Research

EUREKA's areas of possible research have kept shifting as France has modified its original proposal to suit prospective West European partners. All the following 11 research areas have been mentioned in talks among the French and other West European governments:

- Artificial intelligence.*
- High-powered lasers.*
- Large computers.*
- Microelectronics.*
- New materials.*
- Optoelectronics.*
- Space research.*
- Biotechnology.
- Engineering in extreme environments.
- Flexible and highly integrated systems.
- Robotics.

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Talks among West European government and industry representatives, particularly between the French and West Germans, have focused on five areas:

- Supercomputers--France already is working on supercomputers in its Marisis project but probably would be eager to get more funding and West German expertise through EUREKA.
- Integrated circuits--some work in this area already is being done in the EC ESPRIT program, but there is widespread West European interest in expanding research in both gallium arsenide and silicon integrated circuits.

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* Seven original areas of EUREKA research proposed by France. The four others were added as France modified its proposal.

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- Artificial intelligence software--West Europeans are interested in developing expert systems for the diagnosis of large systems, improving software productivity, and providing multi-lingual access to databases.
- Robotics and computer-aided manufacturing systems--fundamental research under ESPRIT is being conducted in this area, but West Europeans wish to enhance the application of computers to production and quality control systems.
- Industrial uses of high-powered lasers--the West Europeans, not wanting to fall behind the United States in this key area of SDI-related research, are discussing research in ultraviolet and infrared lasers. [redacted]

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- Home electronics--including domestic appliances, entertainment devices, and information processing equipment.
- Transportation--including high-speed trains, air traffic control equipment, mobile digital radios, and post office automation.
- Factory automation--taking a systemwide approach to the "factory of the future" embracing such elements as lasers, robotics, and microelectronics.
- European standards--creating common standards for high-tech equipment throughout Western Europe, tax incentives for firms operating at the Europeanwide level, and open government procurement policies. [redacted]

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FRENCH COMPANIES INTERESTED IN EUREKA

<u>Companies</u>	<u>Employees</u>	<u>1983 Sales</u>
Aerospatiale	40,000	\$2.6 billion
<u>Comment:</u> Leading French aerospace company and producer of military and civilian aircraft...also manufactures missiles, helicopters, and space systems...working with MBB on a communications satellite, several missile systems, and an anti-tank helicopter.		
Bull	25,000	\$1.2 billion
<u>Comment:</u> State-owned manufacturer of mid-size and large computers...more recently involved in office automation and micro-computers...heavily patronized by French government...main contractor on French Isis and Marisis supercomputer projects.		
Compagnie Generale d'Electricite (CGE)	150,000	\$ 7.5 billion
<u>Comment:</u> Diversified state-owned electronics firm with interests in electro-mechanical engineering and electrical construction...recently expanding interest in telecommunications and data processing.		
Matra	30,000	\$1.2 billion
<u>Comment:</u> Manufacturer of arms systems, missiles, space launchers, satellites, and optical equipment...state-controlled...prime contractor for development and production of Ariane launcher...contractor on Spacelab project...predominantly military work but trying to expand civilian sector.		
Thomson	130,000	\$6.7 billion

Comment: Manufacturer of a wide range of electronics products including consumer electronics goods, medical equipment, and electronic components...60 percent of sales from Thompson CSF subsidiary which produces avionics equipment, radar, radio and television equipment, and data processing equipment.

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